

Summary - 1-1
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RESEARCH MEMORANDUM

EVALUATION OF GUST AND DRAFT VELOCITIES FROM FLIGHTS OF

P-61C AIRPLANES WITHIN THUNDERSTORMS JUNE 11, 1947

TO JULY 11, 1947 AT CLINTON COUNTY

ARMY AIR FIELD, OHIO

By

Jack Funk

Langley Memorial Aeronautical Laboratory
Langley Field, Va.



**NATIONAL ADVISORY COMMITTEE
FOR AERONAUTICS**

WASHINGTON

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

RESEARCH MEMORANDUM



EVALUATION OF GUST AND DRAFT VELOCITIES FROM FLIGHTS OF
P-61C AIRPLANES WITHIN THUNDERSTORMS JUNE 11, 1947
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The results obtained from measurements of gust and draft velocities within thunderstorms at Clinton County Army Air Field, Ohio, for the period of June 11, 1947 to July 11, 1947 are presented herein. These data are summarized in tables I and II, respectively, and are of the type presented in reference 1 for previous flights.

Langley Memorial Aeronautical Laboratory
National Advisory Committee for Aeronautics
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Approved:

Richard V. Rhode
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RCM

REFERENCE

1. Tolofson, H. B.: Evaluation of Gust and Draft Velocities from Flights of P-61C Airplanes within Thunderstorms May 13, 1947 to May 29, 1947 at Clinton County Army Air Field, Ohio. NACA RM No. L7J29, 1947.

TABLE I.- SUMMARY OF GUST MEASUREMENTS FROM FLIGHTS
OF P-61C AIRPLANES WITHIN THUNDERSTORMS

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity U_{max} (fps)	Maximum true gust velocity U_{tmax} (fps)	Gust gradient distance (ft)	No. of gusts			
June 11, 1947 - Flight 8								
Airplane 354 - Traverse 1 Length of traverse 298.7 sec, 105,421 ft								
0 - 40	24,500	----	-----	----	----	---	---	0
^a 40 - 50		1.3	-3.5	8.2	-----	294	---	7
50 - 60		4.4	-2.2	-----	-----	---	---	6
60 - 70		6.0	-6.6	-----	-----	---	---	5
70 - 80		14.2	-12.6	34.4	-24.1	177	227	7
80 - 90		11.4	-21.2	8.1	-----	125	---	6
90 - 100		13.9	-10.8	-----	-6.2	---	60	6
100 - 110		7.0	-8.9	17.2	-----	67	---	6
110 - 120		10.8	-11.1	-----	-----	---	---	7
120 - 130		-----	-----	-----	-----	---	---	0
130 - 140		7.6	-8.9	-----	-----	---	---	2
140 - 150		2.2	-4.7	-----	-----	---	---	4
150 - 160		4.4	-7.9	7.1	-----	358	---	2
160 - 180		-----	-----	-----	-----	---	---	0
^b 180 - 190	25,000	-----	-----	-----	-----	---	---	0
190 - 260		-----	-----	-----	-----	---	---	0
260 - 300		-----	-----	-----	-----	---	---	0
Airplane 354 - Traverse 2 Length of traverse 373.2 sec, 135,908 ft								
0 - 40	24,500	----	-----	----	-----	---	---	0
^a 40 - 50		-----	-----	-----	-----	---	---	0
50 - 60		-----	-2.8	-----	-----	---	---	2
60 - 70		3.5	-5.3	5.0	-----	113	---	4
70 - 80		3.5	-3.5	5.8	-----	93	---	3
80 - 90		2.5	-2.8	3.8	-5.1	105	100	3
90 - 100		2.5	-3.5	-----	-----	---	---	3
100 - 110		-----	-2.8	-----	-5.6	---	302	1
110 - 120		6.3	-5.6	-----	-----	---	---	3
120 - 130		4.7	-9.4	8.9	-----	106	---	3
130 - 140		7.5	-9.4	17.1	-----	111	---	7
140 - 150		11.9	-6.0	-----	-7.5	---	269	6
150 - 160		9.4	-9.7	-----	-----	---	---	8

^aCloud entry.

^bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 11, 1947 - Flight 8								
Airplane 354 - Traverse 2 Length of traverse 373.2 sec, 135,908 ft								
160 - 170	24,500	11.6	-8.5	6.9	-----	212	---	6
170 - 180		4.7	-11.3	-----	-----	---	---	5
180 - 190		14.4	-7.5	13.0	-----	92	---	5
190 - 200	25,000	13.8	-11.0	21.6	-----	384	---	4
200 - 210		8.2	-7.8	30.7	-----	272	---	6
210 - 250		-----	-----	-----	-----	---	---	0
^b 250 - 260		-----	-----	-----	-----	---	---	0
^a 260 - 270		7.5	-----	14.7	-----	199	---	1
270 - 280		10.0	-15.1	-----	-----	---	---	7
280 - 290		23.9	-11.9	-----	-----	---	---	6
290 - 300		19.8	-19.5	-----	-19.9	---	270	11
300 - 310	25,500	13.2	-10.7	-----	-----	---	---	7
310 - 320		8.5	-11.9	9.6	-----	111	---	11
320 - 330		10.4	-16.0	-----	-----	---	---	5
^b 330 - 340		-----	-----	-----	-----	---	---	0
340 - 380	25,000	-----	-----	-----	-----	---	---	0
Airplane 354 - Traverse 3 Length of traverse 202.5 sec, 66,797 ft								
0 - 70	25,000	-----	-----	-----	-----	---	---	0
^a 70 - 80		3.7	-4.4	12.7	-----	100	---	2
80 - 90		3.4	-7.5	3.5	-----	64	---	2
90 - 100		5.9	-5.0	14.1	-----	338	---	4
100 - 110		-----	-7.8	-----	-24.2	---	245	2
110 - 120		6.9	-5.6	15.5	-----	93	---	6
120 - 130	24,500	8.1	-13.1	17.1	-----	98	---	8
130 - 140		11.2	-3.1	12.5	-----	313	---	5
140 - 150		12.8	-8.4	5.6	-16.4	120	189	5
150 - 160		6.6	-5.9	13.1	-----	127	---	5
160 - 170		5.3	-9.4	-----	-----	---	---	5
170 - 180		4.1	-5.6	9.3	-----	134	---	5
180 - 190		10.0	-6.6	9.9	-----	28	---	7
190 - 200	25,000	2.2	-5.6	-----	-----	---	---	6
^b 200 - 210		-----	-4.4	-----	-----	---	---	1

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 11, 1947 - Flight 8								
Airplane 354 - Traverse 4 Length of traverse 107.8 sec, 39,122 ft								
20 - 10	25,000	2.5	-4.0	----	-8.9	---	94	6
10 - 20		5.6	-7.1	----	-15.2	---	75	3
20 - 30		4.7	-8.4	7.9	-----	232	---	5
30 - 40		9.6	-8.1	-----	-----	---	---	7
40 - 50		11.8	-10.5	-----	-----	---	---	9
50 - 60	25,500	10.2	-11.8	2.3	-----	88	---	5
60 - 70		11.5	-13.3	-----	-----	---	---	6
70 - 80		11.8	-6.8	-----	-16.6	---	181	7
80 - 90		17.4	-19.5	-----	-----	---	---	7
90 - 100		8.7	-14.3	-----	-----	---	---	7
b100 - 110	26,000	-----	-----	-----	-----	---	---	0
Airplane 327 - Traverse 1 Length of traverse 333.4 sec, 86,495 ft								
0 - 40	10,000	-----	-----	-----	-----	---	---	0
a40 - 50		8.9	-1.3	-----	-----	---	---	5
50 - 60		-----	-----	-----	-----	---	---	0
60 - 70		4.8	-5.4	-----	-7.9	---	65	2
70 - 80		10.8	-10.2	-----	-----	---	---	4
80 - 90		6.0	-7.6	-----	-----	---	---	3
90 - 110		-----	-----	-----	-----	---	---	0
110 - 120		-----	-5.1	-----	-----	---	---	2
120 - 130		-----	-8.6	-----	-----	---	---	1
130 - 140		5.4	-5.1	-----	-----	---	---	4
140 - 150		14.0	-10.2	-----	-----	---	---	5
150 - 160		5.1	-7.3	-----	-----	---	---	4
160 - 170		11.4	-3.8	-----	-----	---	---	3
170 - 180		7.6	-3.8	-----	-----	---	---	3
180 - 190		-----	-5.1	-----	-----	---	---	1
190 - 200		9.2	-4.5	-----	-----	---	---	2
200 - 210		-----	-----	-----	-----	---	---	0
210 - 220		-----	-5.1	-----	-----	---	---	2
220 - 230		20.0	-10.5	-----	-----	---	---	5
230 - 240		15.3	-10.2	-----	-----	---	---	6
240 - 250		9.5	-3.5	-----	-----	---	---	5

aCloud entry.

bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts	
June 11, 1947 - Flight 8						
Airplane 327 - Traverse 1 Length of traverse 333.4 sec, 86,495 ft						
250 - 260 ^b 260 - 270 270 - 300 300 - 310 310 - 320 320 - 330 330 - 340	10,000	5.1 ----- ----- ----- 5.1 4.5 -----	----- ----- ----- 5.1 ----- -4.5 -----	16.4 ----- ----- ----- 9.7 ----- -11.4 -----	36 ----- ----- 215 161 177 -----	1 0 0 1 1 4 0
Airplane 327 - Traverse 2 Length of traverse 492.9 sec, 125,707 ft						
0 - 140 140 - 150 150 - 160 160 - 170 170 - 180 180 - 190 190 - 200 ^a 200 - 210 210 - 230 230 - 240 240 - 250 250 - 260 260 - 270 270 - 280 280 - 290 290 - 300 300 - 310 310 - 320 320 - 330 330 - 340 340 - 350 350 - 360 360 - 370	10,000 					

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 11, 1947 - Flight 8					
Airplane 327 - Traverse 2 Length of traverse 492.9 sec, 125,707 ft					
370 - 380	9,500	----	-9.5	----	1
380 - 390		7.6	-12.7	----	4
390 - 400		8.9	----	----	3
400 - 410		6.6	-9.8	----	6
410 - 420		18.0	-6.0	----	4
420 - 430	10,000	----	----	----	0
430 - 440		13.6	-4.1	----	6
440 - 450		6.3	-8.5	----	4
450 - 460		9,500	----	----	1
460 - 470		----	-5.4	----	1
470 - 500		----	----	----	0
Airplane 327 - Traverse 3 Length of traverse 360.5 sec, 88,232 ft					
0 - 20	9,500	----	----	----	0
20 - 30	10,000	----	-4.4	----	1
30 - 40		----	----	----	0
40 - 50		----	-5.6	----	1
b50 - 60		----	----	----	0
60 - 70		4.1	----	----	1
a70 - 80		4.1	-3.5	----	2
80 - 90		5.3	----	----	1
90 - 100		----	-4.1	----	1
100 - 110		3.2	-5.6	----	6
110 - 120		6.6	-9.7	----	4
120 - 130		8.5	-6.0	----	4
130 - 140		5.3	----	----	1
140 - 150		----	-5.0	----	1
150 - 160		6.0	-6.3	----	4
160 - 170		7.2	-6.3	----	5
170 - 180	9,500	5.6	-6.6	----	3
180 - 190		12.9	-6.6	25.0	4
190 - 200		9.7	-4.1	----	5
200 - 210		----	-7.5	-12.3	1
210 - 220		19.1	-7.8	-9.9	5
220 - 230		7.5	-5.6	----	4

aCloud entry.

bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 11, 1947 - Flight 8					
Airplane 327 - Traverse 3 Length of traverse 360.5 sec, 88,232 ft					
a 230 - 240	9,500	8.8	-17.9	----	5
240 - 250		6.9	-7.8	----	10
b 250 - 260		----	-6.0	----	1
260 - 270		5.0	-5.0	----	2
a 270 - 280		----	----	----	0
280 - 290	10,000	5.3	----	13.8	2
290 - 300		10.7	-5.6	24.7	5
300 - 310		5.0	----	6.4	2
310 - 320		----	-6.9	----	1
320 - 330		----	3.8	----	2
330 - 350		----	----	----	0
b 350 - 360		4.7	-4.1	10.3	2
360 - 370		----	----	----	0
Airplane 327 - Traverse 4 Length of traverse 240.4 sec, 59,714 ft					
0 - 10	10,000	----	----	----	0
10 - 20		----	-3.7	----	1
a 20 - 30		----	----	----	0
30 - 40		----	-4.1	----	1
40 - 50		3.7	-3.1	----	3
50 - 60		6.6	-5.0	----	6
60 - 70		----	-5.6	----	2
70 - 80		2.2	-6.6	----	3
80 - 90		4.7	----	----	2
90 - 100		5.0	-5.0	11.9	4
100 - 110	9,500	8.1	-4.1	----	5
110 - 120		7.5	-7.2	----	4
120 - 130		10.6	-7.8	17.4	4
130 - 140		8.7	-10.9	----	5
140 - 150		7.2	-11.2	27.8	8
150 - 160	9,000	8.4	-5.6	----	5
160 - 170		15.0	-11.6	----	6
170 - 180		4.7	----	----	1

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity U_{emax} (fps)		Maximum true gust velocity U_{tmax} (fps)		Gust gradient distance (ft)		No. of gusts
June 11, 1947 - Flight 8								
Airplane 327 - Traverse 4 Length of traverse 240.4 sec, 59,714 ft								
180 - 190	9,000	3.7	-9.7	----	-----	---	---	5
190 - 200		6.9	-4.4	----	-----	---	---	4
200 - 210		5.3	-3.7	----	-----	---	---	6
210 - 220	9,500	3.7	-----	11.2	-----	76	---	1
220 - 250		-----	-----	-----	-----	---	---	0
Airplane 345 - Traverse 1 Length of traverse 283.3 sec, 69,899 ft								
0 - 10	4,500	3.2	-2.3	----	-8.7	---	326	2
10 - 20		-----	-----	-----	-----	---	---	0
20 - 30		3.2	-----	-----	-----	---	---	1
30 - 40		-----	-2.6	-----	-----	---	---	1
^a 40 - 50	5,000	7.7	-7.4	----	-12.6	---	205	4
50 - 60		5.2	-6.4	----	-----	---	---	8
60 - 70		3.5	-4.5	----	-----	---	---	5
70 - 80		2.9	-8.4	8.1	-14.6	58	90	6
80 - 90		3.9	-1.9	4.7	-5.0	25	30	5
90 - 100		5.5	-5.5	-----	-----	---	---	9
100 - 110		4.5	-5.8	9.9	-----	195	---	6
110 - 120		3.5	-2.6	5.8	-----	65	---	3
120 - 130		-----	-3.9	-----	-----	---	---	2
130 - 140		3.9	-1.9	-----	-----	---	---	2
140 - 150		3.5	-2.6	5.4	-4.2	195	74	5
150 - 160		3.5	-3.9	5.4	-----	127	---	4
160 - 170		-----	-3.2	-----	-----	---	---	4
170 - 180		5.2	-5.3	-----	-----	---	---	5
180 - 190		3.5	-2.6	4.7	-----	72	---	3
190 - 200		5.2	-5.8	3.8	-----	62	---	5
200 - 210		4.5	-5.8	-----	-8.9	---	175	4
210 - 220		-----	-2.6	-----	-----	---	---	3
220 - 230		3.5	-2.6	5.6	-7.4	78	65	6
230 - 240		3.5	-5.5	-----	-4.4	---	56	3
240 - 250		3.5	-----	5.4	-----	145	---	1
250 - 280		-----	-----	-----	-----	---	---	0
^b 280 - 290		-----	-----	-----	-----	---	---	0

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 11, 1947 - Flight 8					
Airplane 348 - Traverse 2 Length of traverse 182.9 sec, 50,146 ft					
0 - 10	5,000	----	----	----	0
10 - 20	4,500	2.9	-2.2	----	3
20 - 60		2.9	-2.2	----	0
^a 60 - 70		----	----	----	0
70 - 80		4.2	----	----	2
80 - 90		3.2	-3.5	----	6
90 - 100	5,000	8.0	-6.7	----	3
100 - 110		3.2	-4.2	----	6
110 - 120		2.6	-3.5	----	3
120 - 130		6.1	-4.8	----	4
130 - 140		3.2	-4.2	----	4
140 - 150		6.7	-7.1	10.8	5
150 - 160		----	-2.2	----	1
160 - 170		3.2	-2.2	----	3
170 - 180		----	----	----	0
^b 180 - 190		----	----	----	0
June 13, 1947 - Flight 9					
Airplane 354 - Traverse 1 Length of traverse 1359.6 sec, 483,639 ft					
0 - 50	20,000	----	----	----	0
50 - 60		2.9	-2.9	----	2
60 - 70		----	----	----	0
^a 70 - 80		----	----	----	0
80 - 90		8.0	-6.1	11.2	2
90 - 100		5.8	-6.1	----	4
100 - 110		4.8	-5.5	----	4
110 - 120		----	----	----	0
120 - 130		----	-3.9	----	1
130 - 140		4.8	----	----	1
140 - 150		20.6	-10.0	----	8
150 - 160		8.0	-12.2	21.8	7
160 - 170		4.5	-15.8	----	16
170 - 180		12.2	-17.0	-25.4	13

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts	
June 13, 1947 - Flight 9									
Airplane 354 - Traverse 1 Length of traverse 1359.6 sec, 483,639 ft									
180 - 190	20,000	9.0	-10.0	----	-----	---	---	14	
190 - 200		13.5	-2.6	17.3	-15.6	89	115	4	
200 - 210		12.2	-14.5	----	-19.9	---	175	11	
210 - 230		----	-----	----	-----	---	---	0	
230 - 240		3.2	-3.2	4.1	-15.4	120	120	8	
240 - 250		4.8	-3.9	5.2	-----	73	---	6	
250 - 260		1.9	-1.9	----	-4.0	---	56	2	
260 - 280		----	-----	----	-----	---	---	0	
280 - 290		5.8	-2.2	----	-----	---	---	2	
290 - 300		5.2	-2.6	----	-4.8	---	142	3	
300 - 310	20,500	----	-----	----	-----	---	---	0	
310 - 320		----	-2.6	----	-----	---	---	1	
320 - 330		----	-4.2	----	-7.9	---	110	2	
330 - 350		----	-----	----	-----	---	---	0	
350 - 370		----	-----	----	-----	---	---	0	
370 - 380		3.8	-----	----	-----	---	---	1	
380 - 390		20,000	----	-----	----	-----	---	---	0
390 - 400			10.0	-4.5	----	-----	---	---	7
400 - 410		20,500	20.6	-16.4	----	-18.2	---	166	10
410 - 420			9.6	-10.3	----	-23.1	---	293	8
420 - 430	11.9		-18.7	----	-37.6	---	48	10	
430 - 440	16.4		-14.5	----	-----	---	---	10	
440 - 450	16.4		-11.6	----	-45.2	---	327	8	
450 - 460	19.6		-26.1	----	-----	---	---	5	
460 - 470	21,000	16.4	-28.0	----	-----	---	---	5	
470 - 480		----	-----	----	-----	---	---	0	
480 - 510	20,500	----	-----	----	-----	---	---	0	
510 - 530	20,000	----	-----	----	-----	---	---	0	
530 - 540		1.9	-1.9	----	-----	---	---	2	
540 - 550	----	-----	----	-----	---	---	0		
550 - 560	1.9	-----	----	-----	---	---	1		
560 - 570	----	-----	----	-----	---	---	0		
570 - 580	1.9	-8.4	----	-----	---	---	2		
580 - 590	4.2	-6.1	----	-8.1	---	37	5		
590 - 600	7.1	-4.8	----	-6.3	---	233	4		
600 - 610	----	-1.9	----	-6.7	----	92	2		

^bCloud exit.

TABLE I.-SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 354 - Traverse 1 Length of traverse 1359.6 sec, 483,639 ft					
610 - 620	20,000	----	----	---	0
620 - 630	19,500	----	-1.6	---	1
630 - 640		5.8	-2.6	11.1	5
640 - 840	20,000	----	----	---	0
840 - 850		10.5	-8.9	---	7
850 - 860		7.6	-8.6	---	11
860 - 870		8.0	-9.2	---	5
870 - 880		7.6	-5.1	-12.5	10
880 - 890		5.1	-11.2	---	2
890 - 900		3.8	-2.6	---	5
900 - 910		7.6	-6.4	12.9	9
910 - 920		9.9	-7.3	-10.4	5
920 - 930		4.8	-7.6	9.4	10
930 - 940		7.0	-6.7	---	3
940 - 950		5.4	-4.5	9.9	6
950 - 960		17.9	-11.5	-29.0	8
960 - 970		3.2	-7.3	12.5	6
970 - 980		10.2	-18.8	---	8
980 - 990		12.8	-9.6	---	6
990 - 1000		12.8	-10.2	13.4	11
1000 - 1010	20,500	8.9	-7.0	---	6
1010 - 1020		14.4	-13.7	24.1	8
1020 - 1030		4.8	-5.4	10.7	6
1030 - 1040	21,000	11.5	-6.7	17.0	6
1040 - 1050		4.8	-5.7	---	9
1050 - 1060		9.9	-2.9	17.2	8
1060 - 1070		7.6	-8.6	-13.4	8
1070 - 1080		5.1	-4.8	---	5
1080 - 1090		7.0	-4.8	9.0	6
1090 - 1100		3.5	-4.8	---	6
1100 - 1110		4.5	-3.5	19.1	3
1110 - 1120		2.2	-4.8	---	4
1120 - 1130		5.4	-4.8	---	2
1130 - 1140		3.2	-2.5	---	2
1140 - 1150		2.5	----	---	1

*Cloud entry.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 354 - Traverse 1 Length of traverse 1359.6 sec, 483,639 ft					
1150 - 1160	21,000	---	---	---	0
1160 - 1170	21,500	1.9	---	---	1
1170 - 1180		3.5	-4.5	---	4
1180 - 1190		---	-2.2	---	1
1190 - 1200		---	---	---	0
1200 - 1210		1.9	---	---	1
1210 - 1220	21,000	---	---	---	0
1220 - 1230		---	-2.2	---	1
1230 - 1240		---	---	---	0
1240 - 1250	20,500	7.0	-1.6	-9.0	395
1250 - 1260		---	---	---	2
^b 1260 - 1270		---	---	---	0
1270 - 1290	20,000	---	---	---	0
1290 - 1310	19,500	---	---	---	0
1310 - 1320	20,000	---	---	---	0
1320 - 1330		6.1	-6.7	-21.0	189
1330 - 1340		7.6	-7.0	---	6
1340 - 1360		---	---	---	0
Airplane 354 - Traverse 2 Length of traverse 184.7 sec, 70,048 ft					
^a 0 - 10	20,500	9.4	-3.1	---	6
10 - 20	21,000	9.1	-21.3	15.7	41.3
20 - 30		7.8	-11.9	---	98
30 - 40		---	-9.7	---	314
40 - 50	20,500	8.5	-8.2	---	---
50 - 60		7.8	-8.8	11.8	-27.1
60 - 70	20,000	5.3	-4.4	6.3	-19.2
70 - 80		5.0	-2.5	---	261
80 - 90		4.1	-7.2	---	66
90 - 100		6.9	-5.3	---	-11.8
100 - 110		5.0	-4.4	9.1	-4.2
110 - 120		2.5	-3.8	4.6	---
120 - 130		3.1	-1.6	4.6	---

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 13, 1947 - Flight 9								
Airplane 354 - Traverse 2 Length of traverse 184.7 sec, 70,048 ft								
130 - 140	20,000	----	-1.9	----	-7.0	---	144	1
140 - 150	19,500	3.1	----	----	----	---	---	1
150 - 180		----	----	----	----	---	---	0
^b 180 - 190		----	----	----	----	---	---	0
Airplane 348 - Traverse 1 Length of traverse 2364.4 sec, 723,963 ft								
0 - 20	14,500	----	----	----	----	---	---	0
20 - 40	15,000	----	----	----	----	---	---	0
40 - 50		2.2	----	----	----	---	---	1
50 - 60		----	-3.6	----	----	---	---	4
60 - 100		----	----	----	----	---	---	0
100 - 110		----	-3.6	----	----	---	---	1
110 - 120		----	-3.0	----	----	---	---	2
120 - 130	14,500	3.3	-5.5	----	----	---	---	5
130 - 150		----	----	----	----	---	---	0
150 - 160		----	-1.9	----	----	---	---	1
160 - 170		----	----	----	----	---	---	0
170 - 180		----	-3.6	----	----	---	---	1
180 - 210		----	----	----	----	---	---	0
210 - 220		2.2	----	----	----	---	---	3
220 - 230		3.8	-4.9	----	-6.4	---	79	4
230 - 240		5.0	-3.0	----	----	---	---	3
240 - 250		----	-2.5	----	----	---	---	1
250 - 260		1.8	-3.2	----	-7.1	---	58	4
260 - 270		4.5	-5.2	----	-8.1	---	94	3
270 - 280		----	-2.5	----	----	---	---	1
280 - 290		----	-4.3	----	----	---	---	2
290 - 300		3.2	-4.8	----	-9.3	---	172	7
300 - 310		3.3	----	6.6	----	47	---	3
310 - 320		3.2	-4.2	2.5	----	27	---	3
320 - 430		----	----	----	----	---	---	0
^a 430 - 440		15.7	----	----	----	---	---	1

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9							
Airplane 348 - Traverse 1 Length of traverse 2364.4 sec, 723,963 ft							
440 - 450	15,000	13.4	-5.4	19.1	-----	89	10
450 - 460	15,500	4.9	-13.7	-----	-19.7	149	8
460 - 470		6.8	-15.2	-----	-27.6	209	6
470 - 480		-----	-3.9	-----	-----	-----	1
480 - 490		7.0	-5.6	-----	-----	-----	5
490 - 500		9.7	-8.2	-----	-17.7	41	8
500 - 510		6.7	-5.3	11.2	-----	90	5
510 - 520		3.7	-5.2	7.0	-----	86	7
520 - 530	15,000	4.9	-----	7.9	-----	51	2
530 - 540		2.8	-4.4	-----	-3.8	30	6
540 - 550	14,500	3.3	-----	-----	-----	-----	3
^b 550 - 560		-----	-----	-----	-----	-----	0
560 - 730		-----	-----	-----	-----	-----	0
730 - 740	14,500	3.2	-2.4	-----	-----	-----	2
^a 740 - 750		3.1	-3.4	-----	-8.8	64	5
750 - 760		2.0	-5.1	3.0	-7.2	50	101
760 - 770		7.9	-3.9	8.1	-9.6	95	51
770 - 780		3.2	-10.8	4.6	-----	33	3
780 - 790		10.5	-7.7	11.3	-----	63	9
790 - 800		12.8	-8.8	-----	-----	-----	4
800 - 810		4.7	-----	8.6	-----	78	2
810 - 820		3.1	-2.9	4.7	-11.3	30	33
820 - 830		6.0	-2.3	-----	-----	-----	5
830 - 840		-----	-4.2	-----	-----	-----	1
840 - 850		3.3	-----	7.0	-----	35	1
850 - 860		10.9	-9.4	18.1	-----	99	5
860 - 870		4.8	-5.3	-----	-----	-----	6
870 - 880		7.8	-4.8	11.5	-13.7	52	114
880 - 890		6.0	-12.9	-----	-----	-----	10
890 - 900		20.2	-6.4	-----	-16.3	70	9
900 - 910	15,000	17.2	-6.3	-----	-----	-----	6
910 - 920	15,500	11.7	-11.2	-----	-----	-----	4
920 - 930	16,000	12.4	-9.8	-----	-15.1	106	9
930 - 940		8.0	-7.3	-----	-----	-----	11
940 - 950		-----	-3.3	-----	-----	-----	1
950 - 960		-----	-----	-----	-----	-----	0

^aCloud entry.^bCloud exit.

TABLE I.-- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e,max}$ (fps)	Maximum true gust velocity $U_{t,max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 348 - Traverse 1 Length of traverse 2364.4 sec, 723,963 ft					
960 - 970	16,000	4.0	-----	-----	3
970 - 980		-----	-----	-----	0
980 - 990		4.2	-6.8	-15.0	2
990 - 1010		-----	-----	-----	0
^b 1010 - 1020	15,500	-----	-----	-----	0
1020 - 1040	15,000	-----	-----	-----	0
1040 - 1050		19.3	-17.9	-40.9	4
1050 - 1060		11.7	-7.1	22.6	2
^a 1060 - 1070	15,500	11.1	-15.2	-15.6	7
1070 - 1080		4.7	-----	-----	1
1080 - 1090		-----	-4.6	-----	1
1090 - 1100		-----	-----	-----	0
1100 - 1110		-----	-2.2	-----	1
1110 - 1150		-----	-----	-----	0
1150 - 1160		2.2	-2.9	5.0	3
1160 - 1170		3.1	-2.4	-6.1	2
1170 - 1180		3.2	-----	-----	2
1180 - 1200		-----	-----	-----	0
^b 1200 - 1210		-----	-----	-----	0
1210 - 1220	16,000	-----	-3.0	-----	1
1220 - 1230		-----	-2.9	-----	2
1230 - 1260	15,500	-----	-----	-----	0
1260 - 1270	15,000	-----	-2.6	-----	1
1270 - 1280		-----	-----	-----	0
1280 - 1290	14,500	3.8	-----	3.7	1
1290 - 1650	15,000	-----	-----	-----	0
^a 1650 - 1660		-----	-----	-----	0
1660 - 1670		1.1	-3.4	-9.3	8
1670 - 1680		4.7	-5.3	-----	5
1680 - 1690		-----	-----	-----	0
1690 - 1700	14,500	5.2	-----	-----	1
1700 - 1730		-----	-----	-----	0
1730 - 1740		3.0	-2.2	5.5	5

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 13, 1947 - Flight 9								
Airplane 348 - Traverse 1 Length of traverse 2364.4 sec, 723,963 ft								
1740 - 1750	14,500	4.4	-2.2	----	----	---	---	4
1750 - 1760		12.6	-4.6	----	----	---	---	12
1760 - 1770	15,000	7.8	-11.0	----	----	---	---	10
1770 - 1780		5.3	----	4.7	----	148	---	1
1780 - 1790		3.4	-5.7	8.8	----	61	---	4
1790 - 1800		5.5	----	8.3	----	37	---	3
1800 - 1810		1.0	-2.8	----	----	---	---	3
1810 - 1820	14,500	3.3	----	4.6	----	55	---	3
1820 - 1830		3.9	-3.0	----	----	---	---	3
1830 - 1840	15,000	8.3	-2.2	----	----	---	---	8
1840 - 1850		8.2	-7.7	----	----	---	---	7
1850 - 1860		5.7	-11.2	----	----	---	---	5
1860 - 1870		----	----	----	----	---	---	0
1870 - 1880		----	-2.7	----	-5.7	---	38	2
1880 - 1890		15.8	-6.2	----	----	---	---	6
1890 - 1900		8.2	-2.6	----	----	---	---	6
1900 - 1910	15,500	21.6	-9.9	----	----	---	---	11
1910 - 1920		13.5	-10.0	----	----	---	---	4
1920 - 1930	16,000	----	-3.3	----	----	---	---	1
1930 - 1950		----	----	----	----	---	---	0
^b 1950 - 1960	15,500	----	----	----	----	---	---	0
1960 - 2020	15,000	----	----	----	----	---	---	0
^a 2020 - 2030		17.1	-4.6	----	----	---	---	6
2030 - 2040	15,500	7.9	-13.3	----	----	---	---	9
2040 - 2050	16,000	10.7	-6.3	19.4	----	86	---	14
2050 - 2060		----	-13.4	----	----	---	---	1
2060 - 2070	15,500	----	-5.3	----	----	---	---	1
2070 - 2080		4.3	-6.4	----	----	---	---	3
2080 - 2100		----	----	----	----	---	---	0
2100 - 2110		----	-5.4	----	----	---	---	1
2110 - 2120		4.3	-6.5	----	----	---	---	3
2120 - 2140		----	----	----	----	---	---	0
2140 - 2150	15,000	2.5	-4.5	----	-10.4	---	63	4
2150 - 2160		3.0	-4.5	6.6	----	66	---	5
2160 - 2170		8.0	----	----	----	---	---	1
2170 - 2180		4.3	-9.6	7.1	----	72	---	6

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 13, 1947 - Flight 9								
Airplane 348 - Traverse 1 Length of traverse 2364.4 sec, 723,963 ft								
2180 - 2190	15,000	----	-----	----	-----	---	---	0
2190 - 2200		2.9	-5.4	----	-----	---	---	2
2200 - 2210		17.4	-9.2	30.0	-----	176	---	7
2210 - 2220	15,500	2.0	-6.4	----	-----	---	---	5
2220 - 2230		5.8	-8.0	8.6	-----	40	---	3
2230 - 2240		6.3	-----	----	-----	---	---	1
2240 - 2250	15,000	----	-----	----	-----	---	---	0
^b 2250 - 2260		----	-----	----	-----	---	---	0
2260 - 2370		----	-----	----	-----	---	---	0
Airplane 344 - Traverse 1 Length of traverse 1271.4 sec, 361,422 ft								
0 - 160	10,000	----	-----	----	-----	---	---	0
160 - 170		4.0	-----	----	-----	---	---	1
170 - 190		----	-----	----	-----	---	---	0
^a 190 - 200	10,000	----	-----	----	-----	---	---	0
200 - 210		----	-4.2	----	-5.2	---	159	2
210 - 220		----	-----	----	-----	---	---	0
220 - 230		2.9	-----	----	-----	---	---	1
230 - 240		----	-----	----	-----	---	---	0
240 - 250		----	-4.4	----	-----	---	---	2
250 - 260		3.6	-----	----	-----	---	---	2
260 - 270		----	-4.4	----	-----	---	---	1
270 - 280		3.7	-3.2	----	-----	---	---	2
280 - 290		2.0	-5.6	----	-----	---	---	3
290 - 300		9.5	-11.2	----	-----	---	---	7
300 - 310		3.4	-4.4	----	-----	---	---	2
310 - 320		----	-----	----	-----	---	---	0
320 - 330		2.2	-6.7	11.5	-----	69	---	2
330 - 340	10,500	3.8	-4.3	----	-----	---	---	3
340 - 350		4.4	-7.9	7.2	-----	97	---	6
350 - 360		----	-----	----	-----	---	---	0
360 - 370		5.6	-6.3	----	-----	---	---	4
370 - 380		10.5	-7.7	----	-----	---	---	2
380 - 390		6.8	-13.9	----	-16.7	---	251	6

^aCloud entry.^bCloud exit.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts			
June 13, 1947 - Flight 9								
Airplane 344 - Traverse 1 Length of traverse 1271.4 sec, 361,422 ft								
390 - 400	10,500	5.8	-11.2	----	-25.3	---	146	5
400 - 410		19.0	-8.5	----	----	---	---	2
410 - 420		7.2	-14.0	----	-10.8	---	66	5
420 - 430		----	-6.2	----	----	---	---	1
430 - 440	11,000	11.9	-14.7	----	----	---	---	4
440 - 450	11,500	9.9	-13.4	----	----	---	---	5
450 - 460		7.7	-12.7	----	----	---	---	3
460 - 470		10.2	-7.7	----	----	---	---	2
470 - 480	11,000	12.8	-8.6	----	----	---	---	6
480 - 490	11,500	----	-2.9	----	----	---	---	2
490 - 500		3.7	-13.8	----	----	---	---	2
500 - 510		8.4	-9.0	----	----	---	---	6
510 - 520		11.7	----	11.3	----	191	---	3
520 - 530		4.0	-8.2	----	-13.3	---	64	2
530 - 540		----	-7.5	----	----	---	---	1
540 - 560		----	----	----	----	---	---	0
560 - 570		----	-8.6	----	-15.0	---	80	1
570 - 580		19.8	-11.5	34.8	----	264	---	3
580 - 590	12,000	5.1	-9.9	----	----	---	---	4
590 - 600	12,500	9.0	-21.0	----	----	---	---	5
600 - 610		11.3	-7.6	----	----	---	---	7
610 - 620	12,000	3.6	-7.6	----	----	---	---	3
620 - 630	11,500	9.6	-10.7	----	----	---	---	7
630 - 640		7.7	----	----	----	---	---	1
640 - 650	11,000	12.6	-5.9	----	----	---	---	5
650 - 660	11,500	13.3	-16.1	----	----	---	---	6
660 - 670		10.0	-15.1	----	----	---	---	3
670 - 680		3.0	-8.0	10.2	----	149	---	3
680 - 690	12,000	9.7	----	----	----	---	---	1
690 - 700		4.2	-10.4	6.3	----	80	---	6
700 - 710	12,500	17.5	-15.9	----	----	---	---	4
710 - 720		3.5	----	----	-11.2	---	180	2
720 - 730		----	----	----	----	---	---	0
730 - 740		3.4	-5.1	5.5	-13.5	37	199	4
740 - 750		5.9	----	5.1	----	44	---	1
750 - 760		----	----	----	----	---	---	0
760 - 770	12,000	14.4	----	----	----	---	---	4
770 - 780		----	----	----	----	---	---	0
780 - 790	12,500	5.3	-6.7	----	----	---	---	5

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 344 - Traverse 1 Length of traverse 1271.4 sec, 361,422 ft					
790 - 800	12,500	----	-7.3	----	1
800 - 810	12,000	17.8	-3.1	----	3
810 - 820	12,500	13.3	----	----	1
820 - 830		7.3	-5.6	7.5	3
830 - 840	13,000	8.4	----	----	1
840 - 850	13,500	2.0	-10.2	7.2 -6.6	3
850 - 860		20.9	-15.4	----	6
860 - 870		14.4	-12.7	----	3
870 - 880		----	-17.3	----	1
880 - 890		14.8	-2.6	----	5
890 - 900	14,000	----	-9.9	----	2
900 - 910		7.7	-12.4	----	5
910 - 920	13,500	10.9	-3.8	----	5
920 - 930		6.0	-3.4	----	2
930 - 940		12.5	-6.2	----	6
940 - 950		5.4	-7.1	----	8
950 - 960	13,000	4.9	----	14.8	2
960 - 970		4.2	-3.7	8.5	2
970 - 980		5.0	----	----	2
980 - 990		----	----	----	0
990 - 1000		2.4	----	5.2	1
1000 - 1040	12,500	----	----	----	0
1040 - 1050		----	-7.2	----	2
1050 - 1060		8.4	-6.2	17.8	6
1060 - 1070		6.1	-3.7	----	4
1070 - 1080		5.5	-4.7	----	6
1080 - 1090		4.9	----	9.1	2
1090 - 1110		----	----	----	0
1110 - 1130	12,000	----	----	----	0
1130 - 1140		----	-3.6	----	1
1140 - 1170		----	----	----	0
b1170 - 1180		----	----	----	0
1180 - 1200	11,500	----	----	----	0
1200 - 1210		8.8	----	----	2
1210 - 1220	11,000	----	-7.7	----	3
1220 - 1230		4.9	-3.3	----	2
1230 - 1240		4.5	-8.5	----	3
1240 - 1250		8.7	-15.3	----	4
1250 - 1280		----	----	----	0

Cloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 344 - Traverse 2 Length of traverse 956.3 sec, 254,442 ft					
0 - 40	10,000	----	----	----	0
^a 40 - 50		----	----	----	0
50 - 60		----	-5.4	----	1
60 - 80		----	----	----	0
^b 80 - 90		----	----	----	0
90 - 170		----	----	----	0
^a 170 - 180		----	----	----	0
180 - 190		2.0	-4.0	-10.6	85
190 - 200		6.0	-7.6	9.9	-18.5
200 - 220		----	----	----	106
220 - 230	9,500	2.7	----	6.5	56
230 - 240		3.6	----	9.5	119
240 - 270		----	----	----	----
270 - 280		4.8	----	9.1	186
280 - 320		----	----	----	----
320 - 330		----	----	----	----
330 - 340		3.7	-3.5	----	----
340 - 350		----	----	----	----
350 - 360		10,000	-3.8	----	----
360 - 370		5.0	-3.9	----	----
370 - 380	10,500	----	-9.0	-13.6	114
380 - 390		10.0	-3.5	-9.0	148
390 - 400		15.3	-9.0	43.2	444
400 - 410		4.2	-12.5	----	----
410 - 420		6.5	-6.4	----	----
420 - 430		10.5	-8.3	----	----
430 - 440		9.9	-3.5	6.4	40
440 - 450		5.5	-7.3	----	----
450 - 460	10,000	2.7	-6.4	-9.7	115
460 - 470		2.0	-5.1	-7.2	127
470 - 480		5.5	----	5.9	121
480 - 500		----	----	----	----
500 - 510		4.2	----	6.6	53
510 - 520		4.3	-5.3	-8.4	27
520 - 530		6.2	----	----	----
530 - 670		----	----	----	----
^b 670 - 680		----	----	----	----

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 344 - Traverse 2 Length of traverse 956.3 sec, 254,442 ft					
680 - 700	10,000	----	-----	----	0
^a 700 - 710		----	-----	----	0
710 - 730		----	-----	----	0
730 - 740		5.2	-----	----	2
740 - 750		----	-3.9	-----	1
750 - 760		7.9	-3.8	-----	3
760 - 770		----	-5.7	----- -11.0	1
770 - 780		7.6	-6.3	-----	3
780 - 790		7.4	-7.8	-----	6
790 - 800		5.4	-7.9	6.7 -----	8
800 - 810	10,500	7.2	-11.0	6.4 -----	5
810 - 820		3.9	-7.5	16.1 -----	3
820 - 830		4.1	-4.3	-----	2
830 - 840		----	-7.4	-----	1
840 - 850		5.7	-4.0	7.6 -----	3
850 - 860		----	-----	-----	0
860 - 870		3.5	-3.7	6.4 -----	2
870 - 880		----	-----	-----	0
880 - 890		7.2	-6.7	11.1 -----	2
890 - 910	10,000	----	-----	-----	0
910 - 930	10,500	----	-----	-----	0
930 - 940		----	-2.9	----- -3.6	1
940 - 960		----	-----	-----	0
Airplane 327 - Traverse 1 Length of traverse 1755.9 sec, 425,243 ft					
0 - 110	5,000	----	-----	----	0
^a 110 - 120		----	-4.5	-----	2
120 - 130		2.9	-----	6.4 -----	1
^b 130 - 140		----	-3.1	-----	1
^{a,b} 140 - 150	5,500	2.2	-----	6.9 -----	1
^a 150 - 160		4.8	-----	-----	4
160 - 170		----	-6.7	----- -5.3	2
^b 170 - 180		----	-----	-----	0
180 - 190		----	-----	-----	0
^a 190 - 200		----	-----	-----	0

^aCloud entry.
^bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 327 - Traverse 1 Length of traverse 1755.9 sec, 425,243 ft					
200 - 210	5,500	4.8	-----	-----	1
210 - 220		-----	-----	-----	0
220 - 230		3.9	-11.9	-----	3
230 - 240		10.0	-5.8	-----	3
240 - 500		-----	-----	-----	0
500 - 510	5,000	-----	-9.3	-----	1
510 - 520		-----	-----	-----	0
520 - 530		6.1	-----	-----	2
530 - 540		5.4	-6.1	-----	2
540 - 550		2.9	-----	-----	1
550 - 560	5,500	-----	-6.7	-----	1
560 - 570		13.4	-----	-----	3
570 - 580		-----	-14.7	-----	3
580 - 590		-----	-8.3	20.2	3
590 - 600		8.3	-9.0	-----	5
600 - 610	6,000	3.5	-9.3	-23.0	3
610 - 620		3.5	-7.0	-----	3
620 - 630		16.0	-15.0	-----	4
630 - 640		17.9	-13.8	-----	9
640 - 650		-----	-11.8	-----	2
650 - 660	6,500	12.5	-7.7	-8.5	3
660 - 670		-----	-----	-----	0
670 - 680		-----	-5.4	-----	1
680 - 690		2.2	-5.8	-----	3
690 - 700		6.4	-----	-----	3
700 - 710	7,000	-----	-----	-----	0
710 - 720		1.6	-2.6	-----	3
720 - 730		-----	-4.2	-----	2
730 - 740		-----	-----	-----	0
740 - 750		-----	-18.9	-----	1
750 - 760	7,500	-----	-----	-----	0
760 - 770		-----	-11.8	-----	2
770 - 780		2.6	-8.0	-----	3
780 - 790		10.6	-14.7	-22.0	4
790 - 800		7.0	-7.7	-----	2
800 - 810	7,500	-----	-8.0	-----	1
810 - 820		4.2	-9.6	-----	4

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 327 - Traverse 1 Length of traverse 1755.9 sec, 425,243 ft					
820 - 830	7,500	4.2	-6.1	----	4
^b 830 - 840		----	----	----	0
840 - 980	7,000	----	----	----	0
^a 980 - 990	5,500	----	----	----	0
990 - 1000		----	----	----	0
1000 - 1010	5,000	5.0	----	----	2
1010 - 1020		4.4	----	----	2
1020 - 1030		----	----	----	0
1030 - 1040		7.2	----	13.6	5
1040 - 1050		6.9	----	9.5	2
1050 - 1060	5,500	11.9	-14.3	----	3
1060 - 1070	6,000	6.2	-15.9	----	5
1070 - 1080	5,500	----	----	----	0
1080 - 1090		12.2	-15.3	----	6
1090 - 1100		6.9	----	----	1
1100 - 1110		4.1	-19.3	----	4
1110 - 1120		5.0	----	----	1
1120 - 1130		3.5	-6.7	----	2
^b 1130 - 1140		----	-5.7	----	1
1140 - 1150		5.7	-8.3	----	4
^a 1150 - 1160		11.4	-10.2	----	5
1160 - 1170		5.7	----	----	3
1170 - 1180		14.0	-7.3	7.9 -13.7	129 144
1180 - 1190		----	----	----	0
1190 - 1200	6,000	2.5	-3.5	----	2
1200 - 1210		----	----	----	0
1210 - 1220		14.0	----	45.6	2
1220 - 1230		2.5	-7.6	----	3
1230 - 1240		5.1	-12.1	----	4
1240 - 1250		4.1	----	----	1
1250 - 1260		----	-8.3	----	1
1260 - 1310		----	----	----	0
1310 - 1320		4.1	----	----	1
1320 - 1330		----	-11.7	----	1

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 13, 1947 - Flight 9								
Airplane 327 - Traverse 1 Length of traverse 1755.9 sec, 425,243 ft								
1330 - 1340	6,000	4.1	-7.0	----	-----	---	---	2
1340 - 1350		----	-9.2	----	-13.0	---	182	1
1350 - 1360	6,500	14.3	-7.9	----	-----	---	---	7
1360 - 1370		16.2	-2.2	----	-----	---	---	4
1370 - 1380		5.1	-10.2	----	-13.7	---	72	3
1380 - 1390		8.6	-7.6	13.4	-----	151	---	4
1390 - 1400	7,000	7.0	-----	9.9	-----	174	---	4
1400 - 1410	7,500	----	-15.5	----	-----	---	---	2
1410 - 1420		24.4	-----	----	-----	---	---	1
1420 - 1430	8,000	----	-12.4	----	-----	---	---	1
1430 - 1440		----	-3.5	----	-----	---	---	1
1440 - 1450	8,500	2.9	-----	----	-----	---	---	1
1450 - 1460		6.7	-10.5	----	-----	---	---	3
1460 - 1470	9,000	----	-----	----	-----	---	---	0
1470 - 1480		4.8	-11.1	9.7	-----	69	---	4
1480 - 1490	8,500	6.7	-----	15.5	-----	41	---	2
1490 - 1500		6.3	-----	12.0	-----	67	---	2
1500 - 1510		----	-----	----	-----	---	---	0
1510 - 1520		5.7	-----	----	-----	---	---	1
1520 - 1530		4.8	-6.0	9.0	-----	58	---	5
1530 - 1540		----	-----	----	-----	---	---	0
1540 - 1550	9,000	----	-9.5	----	-----	---	---	1
1550 - 1620		----	-----	----	-----	---	---	0
^b 1620 - 1630		----	-----	----	-----	---	---	0
1630 - 1680	8,500	----	-----	----	-----	---	---	0
1680 - 1690		3.5	-----	6.7	-----	215	---	1
1690 - 1700		----	-----	----	-----	---	---	0
1700 - 1760	8,000	----	-----	----	-----	---	---	0
Airplane 327 - Traverse 2 Length of traverse 547.9 sec, 142,492 ft								
0 - 70	5,000	----	-----	----	-----	---	---	0
^a 70 - 80		----	-----	----	-----	---	---	0
80 - 90		----	-4.7	----	-8.3	---	141	1
90 - 100		----	-----	----	-----	---	---	0
100 - 110		2.5	-----	9.2	-----	141	---	1

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 327 - Traverse 2 Length of traverse 547.9 sec, 142,492 ft					
110 - 120	5,000	----	----	---	0
120 - 130		3.5	-9.5	---	3
130 - 140		----	-6.0	---	1
140 - 160		----	----	---	0
160 - 170		----	-5.4	---	1
170 - 180		----	-4.7	---	1
180 - 190		----	-4.4	---	1
190 - 230		----	----	---	0
230 - 240	5,500	----	-7.3	---	3
240 - 250		----	-4.7	---	1
250 - 260		----	-5.7	---	2
260 - 270		7.9	-3.8	---	7
270 - 280		----	-6.0	---	2
280 - 290		6.0	-6.3	6.9	93
290 - 300		5.4	-14.2	9.3	153
300 - 310		----	----	----	0
310 - 320		----	-6.6	----	1
320 - 360		----	----	----	0
360 - 370		----	----	4.6	74
370 - 380		----	----	----	0
380 - 390		----	-6.9	----	1
390 - 400		----	-8.2	----	1
400 - 410		----	-5.7	----	2
410 - 490		----	----	----	0
^b 490 - 500	5,000	----	----	----	0
500 - 550		----	----	----	0
Airplane 327 - Traverse 3 Length of traverse 298.1 sec, 72,751 ft					
0 - 60	5,000	----	----	----	0
^a 60 - 70		6.9	-11.7	11.1	75
70 - 80		----	-9.5	----	123
80 - 100		----	----	----	0
100 - 110		2.8	-5.7	12.7	58

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 13, 1947 - Flight 9					
Airplane 327 - Traverse 3 Length of traverse 298.1 sec, 72,751 ft					
110 - 120	5,000	11.0	-----	-----	2
120 - 130		8.5	-----	-----	2
130 - 140	5,500	2.8	-7.2	-15.5	89
140 - 150		-----	-10.1	-----	3
150 - 160		5.4	-5.4	-----	3
160 - 170		-----	-6.3	-9.7	135
170 - 180		3.5	-----	8.9	180
180 - 190	6,000	6.3	-5.0	-9.0	97
190 - 200		-----	-6.6	-----	1
200 - 210		-----	-3.2	-8.3	69
210 - 220		-----	-----	-----	0
220 - 230		-----	-5.7	-----	1
230 - 240		4.4	-----	6.9	116
240 - 280		-----	-----	-----	0
280 - 290	6,500	-----	-----	-----	0
b290 - 300		-----	-----	-----	0
June 27, 1947 - Flight 10					
Airplane 348 - Traverse 1 Length of traverse 2166.8 sec, 712,544 ft					
0 - 30	19,500	-----	-----	-----	0
30 - 40		2.2	-----	-----	1
a40 - 50		12.7	-----	26.0	168
50 - 60	20,000	3.9	-4.4	-----	3
60 - 70		2.7	-7.8	11.7	128
70 - 80		5.5	-7.1	-6.3	146
80 - 90		-----	-----	-----	0
90 - 100	19,500	-----	-----	-----	0
100 - 110		13.4	-8.6	-----	4
110 - 120	19,000	7.4	-16.2	-----	5
120 - 130	18,500	14.9	-4.8	-----	2
130 - 140		17.6	-20.7	-----	3
140 - 150		10.8	-17.7	13.5	102
150 - 160	19,000	-----	-----	-----	0

aCloud entry.

bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 348 - Traverse 1 Length of traverse 2166.8 sec, 712,544 ft					
160 - 180	19,500	----	----	----	0
180 - 190		----	-8.7	----	3
190 - 200		----	----	----	0
200 - 210	19,000	----	-9.4	----	2
210 - 220	18,500	11.0	----	----	2
220 - 230	18,000	12.5	----	14.5	2
230 - 240	18,500	1.3	-8.1	17.5	6
240 - 250		----	-12.2	----	3
250 - 260		2.7	-5.0	----	2
260 - 270		10.1	-4.1	----	3
270 - 280		----	-10.5	----	3
280 - 290		3.5	-10.1	----	3
290 - 300		4.0	-7.1	----	3
300 - 310	18,000	9.8	-12.1	----	10
310 - 320		13.2	-15.2	----	7
320 - 330		15.2	-14.3	----	7
330 - 340	18,500	17.9	-15.5	----	6
340 - 350	19,000	19.1	-25.1	----	6
^b 350 - 360	19,500	----	----	----	0
360 - 380	20,000	----	----	----	0
380 - 390		7.5	-11.4	----	7
390 - 400	19,500	10.4	-14.1	----	2
^a 400 - 410		23.7	----	----	4
410 - 420	20,000	12.4	-17.2	----	3
420 - 430		9.1	-11.1	12.7	7
430 - 440		5.7	-7.4	----	3
440 - 450		4.0	----	----	1
450 - 460		3.9	----	----	1
460 - 500	19,500	----	----	----	0
500 - 510		1.9	----	----	1
510 - 520		4.1	----	----	2
520 - 540		----	----	----	0
540 - 550		7.8	-5.5	-5.2	85

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 348 - Traverse 1 Length of traverse 2166.8 sec, 712,544 ft					
550 - 560	19,500	----	----	----	0
560 - 570		7.8	----	----	1
570 - 580		8.0	----	----	1
580 - 590		2.6	-2.3	-10.3	40
590 - 610		----	----	----	0
610 - 620		2.5	----	4.6	129
620 - 660		----	----	----	0
660 - 670		10.8	-4.1	----	3
670 - 680		6.6	-10.3	----	5
680 - 690		2.7	-9.0	----	2
690 - 700	19,000	----	----	----	0
700 - 710		8.6	----	----	1
710 - 720		5.0	----	----	1
720 - 730		3.1	----	----	1
730 - 740		3.7	-4.3	7.7	118
740 - 750		----	-3.4	-8.6	192
750 - 770		----	----	----	0
^b 770 - 780		----	----	----	0
780 - 820		----	----	----	0
820 - 940	19,500	----	----	----	0
^a 940 - 950		----	----	----	0
950 - 970		----	----	----	0
970 - 980		5.4	----	12.3	72
980 - 990		4.1	-5.1	----	2
990 - 1000		6.5	----	----	1
1000 - 1010	19,000	6.3	----	----	1
1010 - 1020		10.7	-11.6	----	5
1020 - 1030		7.6	----	7.1	123
1030 - 1050		----	----	----	0
1050 - 1060	18,500	4.7	----	----	1
1060 - 1070		----	----	----	0
1070 - 1080		7.0	----	8.0	222
1080 - 1090	18,000	4.1	-9.7	----	5
1090 - 1100		3.9	----	----	3
1100 - 1110		----	----	----	0
1110 - 1120		2.2	----	----	1
1120 - 1140		----	----	----	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 27, 1947 - Flight 10								
Airplane 348 - Traverse 1 Length of traverse 2156.8 sec, 712,544 ft								
^t 1140 - 1150	17,500	----	----	----	----	---	---	0
1150 - 1170		----	----	----	----	---	---	0
1170 - 1180	18,000	4.4	-5.3	----	----	---	---	2
1180 - 1210	18,500	----	----	----	----	---	---	0
1210 - 1220		----	-3.1	----	----	---	---	1
1220 - 1230		----	----	----	----	---	---	0
^a 1230 - 1240	18,000	----	----	----	----	---	---	0
1240 - 1270	18,500	----	----	----	----	---	---	0
1270 - 1280		----	-3.1	----	-9.0	---	231	1
1280 - 1290		4.5	----	----	----	---	---	1
1290 - 1300		----	----	----	----	---	---	0
1300 - 1310		15.5	-4.8	----	----	---	---	3
1310 - 1320		2.7	-8.1	----	----	---	---	4
1320 - 1330		----	----	----	----	---	---	0
1330 - 1340		----	-6.1	----	-8.5	---	52	1
1340 - 1350		----	----	----	----	---	---	0
1350 - 1360		4.1	-6.6	13.7	----	122	---	3
1360 - 1370		3.7	-4.1	----	----	---	---	2
1370 - 1400		----	----	----	----	---	---	0
^b 1400 - 1410		----	----	----	----	---	---	0
1410 - 1440		----	----	----	----	---	---	0
1440 - 1480	19,000	----	----	----	----	---	---	0
1480 - 1490		----	-2.6	----	-6.3	---	29	1
1490 - 1500		----	----	----	----	---	---	0
1500 - 1510		5.6	-4.9	----	----	---	---	3
1510 - 1520		----	-8.9	----	----	---	---	1
^a 1520 - 1530		2.2	----	5.3	----	91	---	2
1530 - 1540		3.2	----	11.9	----	43	---	2
1540 - 1550	19,500	3.8	----	----	----	---	---	1
1550 - 1560		----	----	----	----	---	---	0
1560 - 1570		----	-7.4	----	----	---	---	1
1570 - 1580		10.5	-7.0	----	----	---	---	4
1580 - 1590		8.8	----	21.2	----	162	---	3
1590 - 1600		5.0	-5.6	----	----	---	---	3
1600 - 1610		15.4	-12.8	----	----	---	---	6

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 27, 1947 - Flight 10								
Airplane 348 - Traverse 1 Length of traverse 2166.8 sec, 712,544 ft								
1610 - 1620	19,500	5.4	-8.4	----	-16.4	---	79	5
1620 - 1630		11.3	-11.6	24.2	-----	98	---	5
1630 - 1640		----	-5.4	----	-----	---	---	3
1640 - 1650	19,000	11.9	-10.3	8.8	-----	184	---	4
1650 - 1660		4.6	-----	4.7	-----	57	---	2
1660 - 1670		3.2	-5.5	----	-13.6	---	183	4
1670 - 1690		----	-----	-----	-----	---	---	0
1690 - 1710	19,500	----	-----	-----	-----	---	---	0
^b 1710 - 1720		----	-----	-----	-----	---	---	0
1720 - 1760		----	-----	-----	-----	---	---	0
1760 - 1770		7.2	-5.7	----	-----	---	---	3
1770 - 1780		4.1	-----	-----	-----	---	---	3
1780 - 1790	20,000	6.2	-----	-----	-----	---	---	2
1790 - 1800		----	-6.8	----	-13.0	---	69	2
1800 - 1810		----	-----	-----	-----	---	---	0
1810 - 1820		6.0	-2.8	11.0	-5.1	146	176	2
1820 - 1830		4.1	-4.2	----	-----	---	---	2
1830 - 1890		----	-----	-----	-----	---	---	0
1890 - 1900		5.0	-----	8.3	-----	166	---	1
1900 - 1910		7.5	-6.3	17.1	-----	238	---	5
1910 - 1920		9.7	-8.8	----	-----	---	---	8
^a 1920 - 1930		6.8	-16.3	----	-----	---	---	3
1930 - 1940	19,500	----	-15.4	----	-----	---	---	3
1940 - 1950	19,000	4.8	-----	-----	-----	---	---	1
1950 - 1970		----	-----	-----	-----	---	---	0
1970 - 1980		----	-4.1	----	-----	---	---	1
1980 - 1990		2.8	-----	-----	-----	---	---	1
1990 - 2060	19,500	----	-----	-----	-----	---	---	0
^b 2060 - 2070		----	-----	-----	-----	---	---	0
2070 - 2170		----	-----	-----	-----	---	---	0
June 27, 1947 - Flight 10								
Airplane 353 - Traverse 1 Length of traverse 632.6 sec, 186,959 ft								
0 - 10	9,500	----	-----	----	-----	---	---	0
10 - 20		7.7	-----	----	-----	---	---	2

^acloud entry.^bcloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 353 - Traverse 1 Length of traverse 632.6 sec, 186,959 ft					
^a 20 - 30	9,500	12.3	-10.9	----	4
30 - 40		10.2	-----	-----	1
^b 40 - 50		-----	-----	-----	0
50 - 80		-----	-----	-----	0
80 - 90		-----	-3.1	-----	1
90 - 100		-----	-----	-----	0
^a 100 - 110		-----	-----	-----	0
110 - 120		12.0	-11.9	-----	4
120 - 130		10.8	-14.5	-----	8
130 - 140		-----	-6.4	-----	1
140 - 150	10,000	9.0	-4.8	-----	3
150 - 160		7.8	-----	-----	1
160 - 170		-----	-10.8	-----	1
170 - 180		-----	-----	-----	0
180 - 190	9,500	10.7	-6.7	-----	3
190 - 200		13.5	-6.2	16.4	5
200 - 210	10,000	17.6	-19.4	-----	4
210 - 220		8.5	-12.9	-----	3
220 - 230	9,500	22.0	-----	-----	1
230 - 240		11.8	-13.2	-----	5
240 - 250	10,000	18.4	-4.4	-----	3
250 - 260		7.7	-----	-----	2
260 - 270		15.7	-----	-----	2
270 - 280	10,500	8.6	-10.8	-----	2
280 - 300		-----	-----	-----	0
300 - 310	10,000	-----	-----	-----	0
310 - 320		6.8	-----	-----	3
320 - 330		6.1	-----	-----	1
330 - 340		-----	-----	-----	0
340 - 350		12.3	-----	-----	1
350 - 360		-----	-11.0	-----	5
360 - 370		-----	-5.6	-----	1
370 - 380		-----	-----	-----	0
^{a,b} 380 - 390		-----	-----	-----	0
390 - 420	10,500	-----	-----	-----	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 27, 1947 - Flight 10								
Airplane 353 - Traverse 1 Length of traverse 632.6 sec, 186,959 ft								
420 - 430	10,500	----	-10.8	----	-13.4	---	155	1
430 - 440		4.6	-----	8.1	-----	71	---	1
440 - 470	10,000	----	-----	-----	-----	---	---	0
470 - 480	9,500	6.6	-----	10.2	-----	37	---	1
480 - 490		3.1	-4.5	6.3	-----	214	---	5
490 - 500		10.0	-7.0	-----	-----	---	---	4
500 - 510		6.7	-4.2	11.0	-----	100	---	3
510 - 520		13.0	-8.8	-----	-----	---	---	7
520 - 530	10,000	8.4	-10.7	-----	-----	---	---	6
530 - 540		23.4	-15.6	-----	-----	---	---	3
540 - 550		14.8	-----	10.3	-----	115	---	5
550 - 560	10,500	-----	-----	-----	-----	---	---	0
560 - 570		8.2	-19.6	-----	-----	---	---	2
570 - 580		-----	-----	-----	-----	---	---	0
^b 580 - 590		-----	-----	-----	-----	---	---	0
590 - 640	10,000	-----	-----	-----	-----	---	---	0
Airplane 353 - Traverse 2 Length of traverse 167.3 sec, 51,378 ft								
0 - 10	9,500	6.9	-22.3	----	-----	---	---	5
10 - 20		20.8	-13.2	----	-----	---	---	6
^b 20 - 30		7.4	-----	10.9	-----	173	---	1
^a 30 - 40		12.1	-15.0	----	-9.4	---	196	7
40 - 50	9,000	-----	-----	-----	-----	---	---	0
^b 50 - 60		6.5	-----	-----	-----	---	---	1
60 - 170	9,500	-----	-----	-----	-----	---	---	0
Airplane 353 - Traverse 3 Length of traverse 1272.2 sec, 360,141 ft								
0 - 130	9,500	-----	-----	-----	-----	---	---	0
^a 130 - 140		9.0	-----	19.8	-----	94	---	1
140 - 150		-----	-6.7	-----	-----	---	---	1
150 - 160		7.9	-6.4	12.8	-12.9	126	109	2
^b 160 - 170		6.3	-----	-----	-----	---	---	3

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10							
Airplane 353 - Traverse 3 Length of traverse 1272.2 sec, 360,141 ft							
^a 170 - 180	9,500	9.6	-3.8	13.3	-----	93	1
180 - 190		15.7	-----	-----	-----	---	2
190 - 200	10,000	11.6	-6.6	-----	-----	---	4
200 - 210	10,500	22.1	-9.3	-----	-----	---	5
210 - 220	11,000	-----	-----	-----	-----	---	0
220 - 230		9.2	-4.3	-----	-----	---	2
230 - 240		8.1	-7.1	14.8	-----	55	4
240 - 250	10,500	-----	-3.8	-----	-----	---	1
250 - 260		-----	-4.8	-----	-----	---	2
260 - 270		-----	-3.8	-----	-----	---	1
^b 270 - 280		-----	-2.7	-----	-----	---	1
280 - 290		-----	-----	-----	-----	---	0
290 - 340	10,000	-----	-----	-----	-----	---	0
^a 340 - 350		12.0	-3.5	9.6	-----	94	4
^b 350 - 360		-----	-----	-----	-----	---	0
360 - 370		-----	-----	-----	-----	---	0
^a 370 - 380		8.5	-6.5	14.4	-----	43	4
380 - 390		13.8	-12.5	-----	-----	---	3
390 - 400	10,500	14.5	-11.0	-----	-----	---	4
400 - 410	11,000	-----	-14.3	-----	-----	---	3
410 - 420		13.4	-13.4	-----	-----	---	5
420 - 430	11,500	7.1	-14.9	-----	-----	---	3
430 - 440		-----	-----	-----	-----	---	0
^b 440 - 450		-----	-----	-----	-----	---	0
450 - 570		-----	-----	-----	-----	---	0
570 - 580	9,500	3.5	-3.7	-----	-----	---	2
580 - 590		5.5	-----	8.1	-----	86	2
590 - 600		-----	-3.9	-----	-----	---	1
600 - 610		-----	-4.6	-----	-----	---	2
610 - 620	10,000	-----	-5.6	-----	-----	---	2
^a 620 - 630		14.5	-8.7	16.5	-----	31	3
^b 630 - 640		6.9	-10.8	-----	-----	---	3
^a 640 - 650		15.3	-----	26.1	-----	271	1
650 - 660	9,500	16.7	-8.8	-----	-----	---	5
660 - 670	10,000	8.6	-13.2	-----	-----	---	6

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 353 - Traverse 3 Length of traverse 1272.2 sec, 360,141 ft					
670 - 680	10,000	7.6	-----	-----	1
680 - 690		-----	-----	-----	0
^b 690 - 700		-----	-----	-----	0
700 - 720		-----	-----	-----	0
720 - 800	9,500	-----	-----	-----	0
800 - 810		5.5	-5.5	-----	3
810 - 820		-----	-8.5	-----	1
^a 820 - 830		-----	-----	-----	0
830 - 840		10.8	-9.7	-----	2
840 - 850		-----	-----	-----	0
850 - 860		10.3	-4.0	15.9	47
860 - 870		6.4	-6.3	12.9	33
^b 870 - 880		-----	-----	-----	0
880 - 890		7.2	-----	-----	1
890 - 930		-----	-----	-----	0
930 - 940		-----	-5.0	-----	12.0
940 - 990		-----	-----	-----	78
990 - 1000		4.8	-----	4.1	-----
1000 - 1050		-----	-----	-----	-----
^a 1050 - 1060		11.3	-8.7	-----	-----
1060 - 1070	10,000	15.2	-12.0	-----	-----
1070 - 1080		8.2	-----	-----	-----
1080 - 1090		-----	-----	-----	-----
^b 1090 - 1100		-----	-----	-----	-----
1100 - 1280	9,500	-----	-----	-----	-----
Airplane 354 - Traverse 1 Length of traverse 462.5 sec, 110,405 ft					
0 - 10	5,000	-----	-----	-----	-----
^a 10 - 20		-----	-----	-----	-----
20 - 40	4,500	-----	-----	-----	-----
40 - 50	5,000	-----	-----	-----	-----
^b 50 - 60		-----	-4.7	-----	-5.6
60 - 100		-----	-----	-----	-----
100 - 110		-----	-3.6	-----	-6.3

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 354 - Traverse 1 Length of traverse 468.5 sec, 110,405 ft					
110 - 120	5,000	2.6	-----	-----	2
120 - 220		-----	-----	-----	0
220 - 230		-----	-4.3	-----	1
230 - 250		-----	-----	-----	0
^a 250 - 260		6.5	-5.3	-----	4
260 - 270		-----	-----	-----	0
270 - 280		3.1	-----	-----	1
280 - 290		2.5	-----	-----	1
290 - 300		3.8	-6.6	-----	4
300 - 310		12.4	-19.0	-----	5
310 - 320	4,500	-----	-6.1	-----	1
320 - 330		-----	-11.9	-----	1
330 - 340		9.7	-14.3	-----	2
340 - 350		6.5	-19.5	-----	8
350 - 380		-----	-----	-----	0
380 - 390		-----	-5.5	-----	1
^b 390 - 400	5,000	-----	-----	-----	0
400 - 450		-----	-----	-----	0
450 - 460		4.0	-----	-----	2
460 - 470		-----	-5.7	-----	1
Airplane 354 - Traverse 2 Length of traverse 721.9 sec, 175,506 ft					
0 - 10	5,000	-----	-----	-----	0
10 - 20		5.7	-4.4	-----	2
20 - 40		-----	-----	-----	0
40 - 50		4.5	-----	-----	1
50 - 100		-----	-----	-----	0
100 - 110		4.3	-----	8.5	1
110 - 120		4.6	-----	-----	1
120 - 130		5.1	-4.0	-----	5
130 - 140		-----	-5.5	-----	1
^a 140 - 150		16.2	-8.8	-----	3
150 - 160	5,000	8.6	-11.2	-2.0	3
160 - 170		7.1	-----	-----	2
170 - 180		-----	-----	-----	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 354 - Traverse 2 Length of traverse 721.9 sec, 175,506 ft					
180 - 190	5,000	2.9	----	----	2
190 - 200		----	-6.6	----	2
200 - 210		----	----	----	0
210 - 220		----	-7.4	----	3
220 - 230	4,500	11.4	-11.4	----	6
230 - 240		5.3	-6.4	----	8
240 - 250		7.8	-6.2	----	3
250 - 260		8.1	----	----	1
260 - 270		----	----	----	0
^b 270 - 280		3.1	----	----	1
280 - 370	5,000	----	----	----	0
370 - 380		6.4	----	----	1
380 - 410		----	----	----	0
410 - 420		----	-3.7	-2.2	101
420 - 430		3.0	-6.9	-4.8	225
430 - 440		5.3	----	----	1
440 - 450		5.1	-8.4	----	6
450 - 460		3.9	-3.4	----	3
460 - 470		4.5	-4.5	-10.5	213
^a 470 - 480		----	-5.0	----	1
480 - 490		5.6	-6.0	7.5	59
490 - 500		5.1	----	----	3
500 - 510		----	----	----	1
510 - 520		3.6	----	16.0	103
520 - 540		----	----	----	0
540 - 550		----	-4.3	----	1
550 - 560		----	----	----	0
560 - 570	4,500	----	-12.9	-4.9	260
570 - 580		11.8	-17.9	----	4
580 - 590	5,000	10.2	-9.3	12.3	168
590 - 600	4,500	9.5	----	----	3
600 - 610		5.2	-5.3	----	1
610 - 620		9.7	----	----	3
620 - 630		8.1	-6.8	----	2

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 27, 1947 - Flight 10								
Airplane 354 - Traverse 2 Length of traverse 721.9 sec, 175,506 ft								
630 - 640	4,500	----	-----	----	-----	---	---	0
^b 640 - 650		----	-----	----	-----	---	---	0
650 - 660		----	-----	----	-----	---	---	0
660 - 670		5.3	-----	----	-----	---	---	1
670 - 690	5,000	----	-----	----	-----	---	---	0
690 - 710		----	-----	----	-----	---	---	0
710 - 720		----	-6.0	----	-----	---	---	1
720 - 730		----	-----	----	-----	---	---	0
Airplane 354 - Traverse 3 Length of traverse 794.4 sec, 191,616 ft								
0 - 50	5,000	----	-----	----	-----	---	---	0
50 - 60		5.3	-9.3	----	-----	---	---	4
60 - 70		----	-7.0	----	-12.3	---	192	1
70 - 80		----	-4.8	----	-----	---	---	1
80 - 90		3.7	-----	----	-----	---	---	2
90 - 100		2.6	-----	----	-----	---	---	1
^a 100 - 110		1.8	-6.2	----	-----	---	---	6
110 - 120		----	-----	----	-----	---	---	0
120 - 130		5.4	-6.5	----	-----	---	---	4
130 - 140		----	-4.7	----	-----	---	---	1
140 - 170		----	-----	----	-----	---	---	0
170 - 180		6.9	-5.0	8.1	-----	133	---	4
180 - 190		5.2	-5.7	----	-----	---	---	6
190 - 200		----	-----	----	-----	---	---	0
^b 200 - 210		----	-----	----	-----	---	---	0
210 - 280		----	-----	----	-----	---	---	0
^a 280 - 290		----	-----	----	-----	---	---	0
290 - 310		----	-----	----	-----	---	---	0
310 - 320		4.6	-5.0	5.0	-----	80	---	5
320 - 330		5.4	-----	----	-----	---	---	1
330 - 340		11.5	-3.3	----	-----	---	---	2
340 - 360		----	-----	----	-----	---	---	0
360 - 370		13.5	-8.9	18.4	-----	211	---	3

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
June 27, 1947 - Flight 10					
Airplane 354 - Traverse 3 Length of traverse 794.4 sec, 191,616 ft					
370 - 390	4,500	----	-----	----	0
390 - 400		8.0	-6.5	----	5
400 - 410		5.3	-6.5	----- -8.4	5
410 - 420		6.0	-----	----	1
420 - 430	5,000	6.6	-4.6	8.0	55
430 - 440		-----	-----	----	0
^b 440 - 450		-----	-----	----	0
450 - 470		-----	-----	----	0
470 - 480		-----	-4.3	----	1
480 - 490		9.0	-2.6	----	3
490 - 500		-----	-3.7	----	1
500 - 510		4.9	-----	----	2
510 - 520		-----	-----	----	0
520 - 530		5.4	-----	----	1
530 - 540		5.3	-----	11.6	175
540 - 550		-----	-6.6	----	1
^a 550 - 560		-----	-----	----	0
560 - 570		-----	-5.4	----	1
570 - 580		-----	-9.4	----	2
580 - 590		3.6	-----	----	1
590 - 600		-----	-7.3	----	1
600 - 610		6.3	-4.2	----	4
610 - 620		7.1	-7.6	----	5
620 - 630		5.6	-7.5	----	4
630 - 640	4,500	8.9	-9.1	----	4
640 - 650		-----	-5.6	----	1
650 - 660		-----	-----	----	0
660 - 670		3.8	-----	----	1
^b 670 - 680		-----	-----	----	0
680 - 800	5,000	-----	-----	----	0
Airplane 354 - Traverse 4 Length of traverse 222.5 sec, 55,820 ft					
0 - 10	5,000	-----	-----	----	0
^a 10 - 20		4.9	-3.9	7.8	26
20 - 30		13.5	-9.3	-----	2

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
June 27, 1947 - Flight 10								
Airplane 354 - Traverse 4 Length of traverse 222.5 sec, 55,820 ft								
30 - 40	5,000	12.4	-9.8	----	-----	---	---	4
40 - 50		3.6	-----	-----	-----	---	---	1
50 - 60		8.8	-12.1	----	-----	---	---	4
60 - 70		2.9	-3.9	----	-----	---	---	2
70 - 80		8.9	-7.8	----	-----	---	---	2
80 - 90		7.5	-5.2	----	-----	---	---	3
90 - 100		5.3	-5.8	----	-----	---	---	2
100 - 110		4.7	-3.6	----	-9.8	---	185	3
110 - 120		----	-----	-----	-----	---	---	0
120 - 130		5.3	-6.5	----	-----	---	---	2
130 - 140		4.6	-----	-----	-----	---	---	3
140 - 150		7.8	-5.0	----	-----	---	---	4
150 - 160		----	-----	-----	-----	---	---	0
^b 160 - 170		----	-4.1	----	-6.3	---	110	2
170 - 180		----	-4.4	----	-----	---	---	1
^a 180 - 190		----	-----	-----	-----	---	---	0
190 - 200	----	-----	-----	-----	---	---	0	
^b 200 - 210	----	-----	-----	-----	---	---	0	
210 - 230	----	-----	-----	-----	---	---	0	
July 11, 1947 - Flight 11								
Airplane 344 - Traverse 1 Length of traverse 870.0 sec, 303,380 ft ¹								
0 - 60	19,500	----	-----	----	-----	---	---	0
60 - 70	20,000	----	-----	----	-----	---	---	0
^a 70 - 80	20,500	1.7	-----	----	-----	---	---	1
80 - 90		7.0	-9.0	15.8	-----	92	---	6
90 - 100		8.1	-12.7	----	-----	---	---	5
100 - 110		8.3	-----	----	-----	---	---	2
110 - 120		----	-4.7	----	-----	---	---	2
120 - 140		----	-----	----	-----	---	---	0
140 - 150		----	-8.0	----	-----	---	---	1
150 - 160		15.2	-9.7	----	-----	---	---	3
160 - 170		10.6	-9.8	----	-----	---	---	5

¹Failure in operation of airspeed-altitude recorder prevented computation of gust velocities after 870 sec.

^aCloud entry.

^bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
July 11, 1947 - Flight 11								
Airplane 344 - Traverse 1 Length of traverse 870.0 sec, 303,380 ft ¹								
170 - 180	20,500	----	----	----	----	---	---	0
180 - 190		9.6	-9.3	5.6	----	218	---	2
^b 190 - 200		1.6	----	----	----	---	---	1
200 - 840	19,500	----	----	----	----	---	---	0
^a 840 - 850		16.0	-12.3	----	----	---	---	3
850 - 860	20,000	14.4	-9.9	----	-15.1	---	93	5
860 - 870		5.8	-17.2	----	-26.5	---	273	4
Airplane 344 - Traverse 2 Length of traverse 296.7 sec ²								
Airplane 344 - Traverse 3 Length of traverse 1032.6 sec ²								
Airplane 354 - Traverse 1 Length of traverse 1095.2 sec, 322,211 ft								
0 - 10	15,000	5.7	-6.8	----	-6.6	---	133	3
10 - 20		----	-2.3	----	-5.8	---	40	1
20 - 30		----	----	----	----	---	---	0
30 - 40		1.8	----	----	----	---	---	1
40 - 50		----	----	----	----	---	---	0
50 - 60		----	-3.4	----	-5.0	---	181	1
^a 60 - 70		2.4	----	6.8	----	63	---	1
70 - 80		4.5	----	6.5	----	69	---	2
80 - 90		6.5	-9.0	----	----	---	---	5
90 - 100	14,500	----	-4.5	----	----	---	---	2
100 - 110		8.0	-4.0	----	----	---	---	5
110 - 120		4.6	-7.0	----	----	---	---	4
120 - 130	15,000	----	-7.9	----	----	---	---	3
130 - 140		7.1	-12.2	----	----	---	---	7

¹Failure in operation of airspeed-altitude recorder prevented computation of gust velocities after 870 sec.

²Failure in operation of airspeed-altitude recorder prevented computation of gust velocities.

^aCloud entry.

^bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
July 11, 1947 - Flight 11					
Airplane 354 - Traverse 1 Length of traverse 1095.2 sec, 322,211 ft					
140 - 150	14,500	11.9	-12.5	----	4
^b 150 - 160		9.0	-14.3	----	3
^a 160 - 170	15,000	7.1	-----	----	1
170 - 180		----	-----	----	0
180 - 190		----	-4.7	----	1
^b 190 - 200		3.7	-6.8	----	3
200 - 210		4.7	-5.4	9.1	4
210 - 220	14,500	----	-3.4	----	1
220 - 230		1.8	-----	----	1
230 - 580		----	-----	----	0
580 - 590		1.7	-----	----	1
590 - 860	15,000	----	-----	----	0
^a 860 - 870		----	-----	----	0
870 - 880	14,500	----	-7.4	----	1
880 - 890		13.9	-9.3	----	7
890 - 900	15,000	14.1	-13.3	----	5
900 - 910		9.8	-6.8	----	5
910 - 920		6.5	-18.6	----	5
920 - 930		16.8	-12.8	----	6
930 - 940		7.9	-8.7	----	3
940 - 950		----	-10.3	----	2
950 - 960		----	-5.2	----	2
960 - 970		----	-5.3	----	1
970 - 980		----	-8.7	----	3
980 - 990		----	-8.4	----	1
990 - 1000		5.2	-3.8	----	3
1000 - 1010		----	-8.4	----	2
1010 - 1030		----	-----	----	0
^b 1030 - 1040	14,500	----	-----	----	0
1040 - 1060		----	-----	----	0
1060 - 1070		3.2	-4.7	----	2
1070 - 1080		3.4	-----	6.7	2
1080 - 1090		3.8	-----	----	1
1090 - 1100		----	-----	----	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
July 11, 1947 - Flight 11								
Airplane 354 - Traverse 2 Length of traverse 292.0 sec, 87,873 ft								
0 - 10	15,000	2.5	-----	4.5	-----	97	---	1
10 - 50		---	-----	---	-----	---	---	0
50 - 60	14,500	2.3	-----	6.8	-----	284	---	2
60 - 100		---	-----	---	-----	---	---	0
100 - 130	15,000	---	-----	---	-----	---	---	0
130 - 140		3.9	-3.9	---	-----	---	---	2
^a 140 - 150		---	-2.4	---	-----	---	---	1
150 - 170		---	-----	---	-----	---	---	0
170 - 180		---	-3.8	---	-6.6	---	191	1
180 - 190	14,500	---	-4.2	---	-----	---	---	2
190 - 200		---	-----	---	-----	---	---	0
200 - 210	15,000	3.3	-3.8	---	-----	---	---	3
210 - 220		3.3	-----	6.9	-----	82	---	1
220 - 230		---	-----	---	-----	---	---	0
230 - 240	14,500	---	-4.6	---	-----	---	---	1
240 - 250		2.2	-4.1	---	-7.1	---	126	4
250 - 260		---	-----	---	-----	---	---	0
260 - 290	15,000	---	-----	---	-----	---	---	0
^b 290 - 300		---	-----	---	-----	---	---	0
Airplane 354 - Traverse 3 Length of traverse 191.4 sec, 58,185 ft								
0 - 80	15,000	---	-----	---	-----	---	---	0
^a 80 - 90		2.3	-6.8	---	-9.5	---	279	3
90 - 100	14,500	3.2	-4.8	---	-----	---	---	4
100 - 110		4.7	-2.7	---	-----	---	---	3
110 - 120	15,000	---	-----	---	-----	---	---	0
120 - 130		---	-3.9	---	-5.6	---	92	1
130 - 140		---	-----	---	-----	---	---	0
140 - 150	14,500	---	-----	---	-----	---	---	0
150 - 160		---	-4.9	---	-11.2	---	160	1
160 - 170		---	-6.4	---	-----	---	---	3
170 - 180		4.9	-----	---	-----	---	---	1
^b 180 - 190		---	-----	---	-----	---	---	0
190 - 200		---	-----	---	-----	---	---	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
July 11, 1947 - Flight 11								
Airplane 354 - Traverse 4 Length of traverse 76.7 sec, 21,955 ft								
$a_0 - 10$	15,000	4.7	-13.0	----	-----	---	---	5
10 - 20	14,500	6.4	-8.7	----	-----	---	---	2
$b_{20} - 30$		7.8	-8.5	12.6	-----	78	---	5
30 - 40		----	-----	----	-----	---	---	0
40 - 80	15,000	----	-----	----	-----	---	---	0
Airplane 354 - Traverse 5 Length of traverse 99.1 sec ²								
Airplane 354 - Traverse 6 Length of traverse 478.9 sec ²								
Airplane 353 - Traverse 1 Length of traverse 609.2 sec, 186,726 ft								
0 - 130	9,500	----	-----	----	-----	---	---	0
$a_{130} - 140$		18.0	-12.0	32.9	-----	51	---	3
140 - 150		8.6	-12.6	----	-----	---	---	5
150 - 160		8.4	-----	12.4	-----	30	---	2
160 - 170		7.2	-17.6	----	-----	---	---	2
170 - 180		10.1	-----	----	-----	---	---	2
180 - 190		6.0	-4.4	14.9	-----	154	---	3
190 - 200		6.0	-----	----	-----	---	---	1
$b_{200} - 210$		----	-----	----	-----	---	---	0
210 - 610		----	-----	----	-----	---	---	0
Airplane 353 - Traverse 2 Length of traverse 272.8 sec, 80,303 ft								
0 - 30	9,500	----	-----	----	-----	---	---	0
30 - 40		----	-3.1	----	-5.7	---	47	1

²Failure in operation of airspeed-altitude recorder prevented computation of gust velocities.

^aCloud entry.

^bCloud exit.

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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
July 11, 1947 - Flight 11					
Airplane 353 - Traverse 2 Length of traverse 272.8 sec, 80,303 ft					
40 - 70	9,500	----	----	----	0
^a 70 - 80		----	-3.6	----	2
80 - 90		----	----	----	0
90 - 100		5.8	----	----	1
100 - 110		----	-6.7	----	1
110 - 120		----	----	----	0
120 - 130		6.2	----	----	1
130 - 140		13.9	-7.5	----	5
140 - 150		----	-7.8	----	1
150 - 160		20.2	-5.7	38.4 -12.7	141 166
160 - 170		17.4	-7.9	----	8
170 - 180	10,000	8.7	-5.7	----	5
180 - 190		----	----	----	0
190 - 200		10.6	-24.3	11.1	65
200 - 220		----	----	----	0
220 - 240	10,500	----	----	----	0
240 - 250		----	-10.7	----	2
250 - 260	10,000	6.4	-4.7	----	3
260 - 270		----	----	----	0
^b 270 - 280		----	----	----	0
Airplane 353 - Traverse 3 Length of traverse 285.1 sec, 87,162 ft					
0 - 130	9,500	----	----	----	0
^a 130 - 140		----	----	----	0
140 - 190		----	----	----	0
190 - 200		4.7	-2.9	----	4
200 - 210		----	-6.7	----	2
210 - 220	9,000	7.4	-4.0	----	3
220 - 230		4.3	----	8.5	34
230 - 240	9,500	17.7	-4.2	----	4
240 - 250		12.1	-6.5	----	3

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
July 11, 1947 - Flight 11								
Airplane 353 - Traverse 3 Length of traverse 285.1 sec, 87,162 ft								
250 - 260		----	-8.5	----	----	---	---	1
^b 260 - 270		----	----	----	----	---	---	0
270 - 290		----	----	----	----	---	---	0
Airplane 353 - Traverse 4 Length of traverse 184.3 sec, 55,515 ft								
0 - 130	9,500	----	----	----	----	---	---	0
130 - 140		----	-5.5	----	-9.2	---	227	2
^a 140 - 150		----	----	----	----	---	---	0
150 - 180		----	----	----	----	---	---	0
^b 180 - 190		----	----	----	----	---	---	0
Airplane 353 - Traverse 5 Length of traverse 101.9 sec, 30,305 ft								
0 - 10	9,500	----	----	----	----	---	---	0
^a 10 - 20		----	-5.5	----	-7.6	---	62	1
20 - 30		4.1	----	----	----	---	---	1
30 - 40		6.4	-9.1	----	----	---	---	5
40 - 50		----	-11.6	----	----	---	---	4
50 - 60	9,000	----	-11.7	----	----	---	---	1
^b 60 - 70	9,500	----	----	----	----	---	---	0
70 - 80		----	----	----	----	---	---	0
80 - 110	10,000	----	----	----	----	---	---	0
Airplane 353 - Traverse 6 Length of traverse 642.8 sec, 185,379 ft								
0 - 170	10,000	----	----	----	----	---	---	0
^a 170 - 180		9.7	----	23.5	----	217	---	1
^b 180 - 190	9,500	----	----	----	----	---	---	0
190 - 200		----	----	----	----	---	---	0
^a 200 - 210		----	----	----	----	---	---	0

^aCloud entry.^bCloud exit.NATIONAL ADVISORY
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TABLE I.- SUMMARY OF GUST MEASUREMENTS - Concluded

Time interval (sec)	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts			
July 11, 1947 - Flight 11								
Airplane 353 - Traverse 6 Length of traverse 642.8 sec, 185,379 ft								
210 - 220	9,500	11.5	-----	9.2	-----	106	---	2
220 - 230		----	-5.0	----	-9.0	----	55	1
230 - 240		16.8	-15.2	----	----	----	----	3
240 - 250		----	----	----	----	----	----	0
250 - 260		11.7	-9.0	----	----	----	----	2
260 - 270		----	-5.1	----	-7.6	----	36	1
270 - 280	10,000	5.3	-5.2	10.5	----	35	----	3
280 - 290		----	-4.6	----	-4.9	----	84	1
290 - 300	9,500	6.3	-9.2	----	-15.0	----	64	2
300 - 310		----	----	----	----	----	----	0
310 - 320		8.3	-8.0	----	----	----	----	4
320 - 330		----	-1.4	----	----	----	----	1
330 - 340		6.7	-9.8	----	----	----	----	5
340 - 350		6.0	-4.0	----	-6.7	----	88	2
350 - 360		----	-4.0	----	----	----	----	1
360 - 400	9,000	----	----	----	----	----	----	0
400 - 410	9,500	----	----	----	----	----	----	0
410 - 420		12.6	-6.5	21.9	----	52	----	3
420 - 430		----	-13.8	----	----	----	----	1
430 - 480		----	----	----	----	----	----	0
480 - 490		5.8	-9.3	11.1	----	40	----	2
490 - 500		5.8	----	----	----	----	----	1
500 - 530		----	----	----	----	----	----	0
530 - 540		4.1	-12.3	----	-21.8	----	42	2
540 - 550		3.3	----	7.7	----	39	----	2
550 - 560		5.4	-9.7	7.4	----	42	----	4
560 - 570	9,000	5.4	-4.6	----	----	----	----	2
570 - 580		11.9	----	----	----	----	----	3
580 - 600	9,500	----	----	----	----	----	----	0
600 - 610		9.2	----	----	----	----	----	3
610 - 620		9.2	-6.2	----	----	----	----	3
620 - 630	10,000	----	-7.6	----	----	----	----	2
630 - 640		5.4	-3.7	----	----	----	----	2
640 - 650		----	----	----	----	----	----	0

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TABLE II.- SUMMARY OF DRAFT VELOCITY MEASUREMENTS FROM FLIGHTS
OF P-61C AIRPLANES WITHIN THUNDERSTORMS

Date	Flight no.	Air-plane no.	Assigned altitude (ft)	Tra-verse no.	Draft location from start of traverse (sec)		Draft extent (ft)	Average draft velocity (fps)
					Start	End		
6-11-47	8	354	25,000	a ₁				
				2	136.2	147.4	4,005	-33.9
					175.6	183.4	2,757	-56.4
					185.6	199.4	4,763	36.2
				3	124.4	140.4	5,717	-13.8
					183.6	198.0	4,875	15.3
				4	42.4	96.2	19,912	23.0
		327	10,000	a ₁				
				a ₂				
				3	194.8	217.5	5,465	-16.0
				4	112.5	166.5	12,762	-15.5
		348	5,000	a ₁				
				2	63.0	104.9	11,158	8.5
6-13-47	9	354	20,000	1	192.0	202.2	3,799	52.2
					402.0	452.4	18,307	18.2
					958.0	1034.0	26,957	14.9
		348	15,000	a ₂				
				1	439.2	472.5	9,765	32.5
					898.3	925.6	7,946	40.8
					1043.2	1070.2	9,230	42.8
					1749.8	1769.2	6,234	31.7
					1887.5	1917.5	9,755	22.3
					2019.5	2050.7	9,726	30.0

^aNo draft velocities indicated by records.

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TABLE II.- SUMMARY OF DRAFT VELOCITY MEASUREMENTS - Continued

Date	Flight no.	Air-plane no.	Assigned altitude (ft)	Tra-verse no.	Draft location from start of traverse (sec)		Draft extent (ft)	Average draft velocity (fps)
					Start	End		
6-13-47	9	344	11,000	a ₁				
				a ₂				
		327	10,000	1	226.5	238.0	2,720	-15.5
					730.0	784.0	12,583	21.2
					1353.0	1370.8	4,176	34.9
6-27-47	10	348	20,000	a ₁	1385.0	1468.2	18,822	24.6
				a ₂				
				3	116.5	154.0	8,966	14.9
		353	10,000	1	195.2	214.0	4,862	27.7
					214.0	228.8	4,392	-36.3
					246.0	279.5	9,948	21.6
		354	5,000	a ₂				
				3	188.4	215.5	7,856	43.5
				1	384.5	424.2	10,953	38.1
					1061.5	1078.6	4,444	21.9
7-11-47	11	344	20,000	2	307.7	353.9	10,153	-15.7
				2	197.5	257.5	14,127	-12.2
					530.2	580.5	12,701	-6.6
				a ₃				
				a ₄				
				a ₁				
				a ₂				
				b ₃	955.4	997.7		-20.4

^aNo draft velocities indicated by records.

^bFailure in operation of airspeed indicator - length of draft in feet not computed.

TABLE II.- SUMMARY OF DRAFT VELOCITY MEASUREMENTS - Concluded

Date	Flight no.	Air-plane no.	Assigned altitude (ft)	Tra-verse no.	Draft location from start of traverse (sec)		Draft extent (ft)	Average draft velocity (fps)
					Start	End		
7-11-47	11	354	15,000	1	158.4 883.4	187.0 912.9	8,085 8,959	13.5 16.9
				a ₂				
				a ₃				
				a ₄				
				c ₅				
				c ₆				
		353	10,000	1	156.0	180.0	7,651	11.5
				2	155.0	196.5	12,450	15.8
				a ₃				
				a ₄				
				a ₅				
				6	222.8 236.6 607.0	230.0 260.0 629.0	2,311 7,375 6,506	-25.0 16.0 21.6

^aNo draft velocities indicated by records.^cAirspeed-altitude recorder out of film. No further drafts or gusts computed.NATIONAL ADVISORY
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INDEX

<u>Subject</u>	<u>Number</u>
Gusts - Structure	6.1.2.1
Gusts - Frequency	6.1.2.2
Gusts - Turbulence	6.1.2.3

ABSTRACT

The gust and draft velocities from records of NACA instruments installed in P-61C airplanes participating in thunderstorm flights at Clinton County Army Air Field, Ohio, from June 11, 1947 to July 11, 1947 are presented.

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